

Naval Audit Service



Audit Report



Organizational-Level Maintenance of U.S. Navy Aegis-Equipped Ships

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N2011-0019
27 January 2011

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**MEMORANDUM FOR THE COMMANDER, U.S. FLEET FORCES COMMAND
COMMANDER, U.S. PACIFIC FLEET COMMAND**

**Subj: ORGANIZATIONAL-LEVEL MAINTENANCE OF U.S. NAVY
AEGIS-EQUIPPED SHIPS (AUDIT REPORT N2011-0019)**

Ref: (a) NAVAUDSVC memo 7510, N2009-NIA000-0116.000, dated 15 Oct 2009
(b) SECNAV Instruction 7510.7F, "Department of the Navy Internal Audit"

1. This report provides results of the subject audit announced in reference (a). Section A of this report provides our findings and recommendations, summarized management responses, and our comments on the responses. Section B provides the status of the recommendations. The full text of management responses is included in the Appendices.

2. Actions taken by Commander, U.S. Fleet Forces Command and Commander, Pacific Fleet Command meet the intent of Recommendations 4 and 5, and the recommendations are closed. Actions planned by the Commander, U.S. Fleet Forces Command meet the intent of Recommendations 1 through 3. These recommendations are considered open pending completion of the planned corrective actions, and are subject to monitoring in accordance with reference (b). Management should provide a written status report on the recommendations within 30 days after target completion dates. Please provide all correspondence to the Assistant Auditor General for Installations and Environment Audits, XXXXXXXXXXXX, by e-mail at XXXXXXXXXXXX, with a copy to the Director, Policy and Oversight, XXXXXXXXXXXX, by e-mail at XXXXXXXXXXXX. Please submit correspondence in electronic format (Microsoft Word or Adobe Acrobat file), and ensure that it is on letterhead and includes a scanned signature.

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3. Any requests for this report under the Freedom of Information Act must be approved by the Auditor General of the Navy as required by reference (b). This audit report is also subject to followup in accordance with reference (b).

Subj: **ORGANIZATIONAL-LEVEL MAINTENANCE OF U.S. NAVY
AEGIS-EQUIPPED SHIPS (AUDIT REPORT N2011-0019)**

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Executive Summary

Overview

The objective of ship maintenance is to sustain ships in appropriate material condition in order to achieve operational readiness for supporting their tasks and reaching the expected service life. In Fiscal Year (FY) 2010, the Department of the Navy (DON) budgeted approximately \$4.3 billion for ship maintenance. This total represents baseline funding for shore intermediate and depot level maintenance only. Organizational-level maintenance is actually supported by repair parts funding, which is included in the ship operations account. DON budgeted \$3.4 billion in FY 2010 for ship operations. Ship maintenance is considered a high-risk area, since it directly impacts readiness and the Navy's ability to carry out its mission.

Ship maintenance generally falls into three categories: modernization, engineered (preventive), and condition-based (corrective). Maintenance actions occur at three different levels: organizational-level, intermediate-level, and depot-level, depending on the nature and complexity of the work required. Organizational (O-level) maintenance is completed by ship-board military personnel. The Office of the Chief of Naval Operations (CNO) issued guidance for all three levels of Navy Ship Maintenance. This guidance is intended to maintain ships at the highest achievable level of material readiness commensurate with supporting the ship's mission and availability for operations. Ship maintenance is to be performed at the lowest maintenance echelon that can best ensure proper accomplishment, taking into consideration the following: applicable laws, urgency, priority, crew impact, capability, capacity, and total cost.

Surface ships use the Maintenance Material Management (3-M) system to manage maintenance. Aboard ship within the 3-M system, scheduling (SKED) software is used to manage preventative maintenance items. The Organizational Maintenance Management System-Next Generation (OMMS-NG) software is used to manage the Current Ship Maintenance Project (CSMP) or corrective maintenance. The CSMP provides shipboard maintenance managers with a consolidated listing of deferred maintenance to track the material condition of the ship. Each maintenance item is entered into OMMS-NG as an individual work request, or "2-Kilo."

Aegis-equipped ships include the Ticonderoga Class Cruisers (CGs) and the Arleigh Burke Class Destroyers (DDGs). As of 9 June 2010, the entire class of Aegis-equipped ships, CGs and DDGs, consisted of approximately 28 percent of the active ships in the

battle Fleet. In an effort to ensure ship systems are viable into their estimated 35-year service life, the Navy has a modernization plan for 22 CGs¹ and 57 active² DDGs.

Significant shore infrastructure, training and ship manning changes have occurred since 1993 that have affected the current state of maintenance. These changes include: the closure of the Planning and Engineering for Repairs and Alterations (PERA) Activity; significantly reduced maintenance requirements; closure of advanced training C-schools and replacement by computer-based training; top six roll down of senior ship billets (an initiative to move 25,000 billets down one pay grade); and closure of the Shore Intermediate Maintenance Activity (SIMA). These changes are systemic and not unique to any one ship class.

A number of interrelated factors affect maintenance processes, including the operational environment and scheduled availabilities, time, people, and money. Several other ongoing maintenance studies and audits emerged at the time of this audit. These studies and audits focused on specific systems, manning fit and fill, computer-based training, sufficiency of training, manning levels, capabilities, and the material conditions of Naval shipyards. In an effort not to duplicate the work from these ongoing studies and audits, we did not focus on the key factors mentioned previously.

This audit, which focused on internal controls and oversight of deferred maintenance actions, included a review of O-level maintenance accomplishment aboard East Coast Aegis-equipped surface ships. We examined ships that had completed a material inspection (MI) by the Board of Inspection and Survey (INSURV). Because these inspections occur approximately every 5 years, we only reviewed CGs and DDGs placed in service and commissioned prior to calendar year (CY) 2004 for Finding 1. The universe of Aegis-equipped ships within our scope included 63 ships for both East and West Coasts for Finding 2. During our initial audit phase, we conducted site visits aboard two³ East and two West Coast ships. We identified a universe of 30 East Coast ships commissioned prior to CY 2004. Of these, 20 ships were available at the time of our review, for validation and verification testing. From the 20 ships, we randomly selected and visited a total of 11 ships, including 5 CGs, and 6 DDGs, representing 50 percent and 30 percent respectively, of their class in our universe. To assess the effectiveness of the internal control structure and oversight for accomplishing O-level maintenance, we reviewed processes and procedures, analyzed data, and interviewed key personnel at CNO, INSURV, U.S. Fleet Forces Command (USFF), U.S. Pacific Fleet Command (COMPACFLT), and Naval Sea Systems Command (NAVSEA). At the request of our customer, U.S. Fleet Forces Command, Fleet Maintenance (N43), we

¹ Originally, 27 CG ships were built. The first five ships were decommissioned before reaching their estimated service life, because they were built to different specifications and deemed too expensive to modernize.

² Some destroyer vessels (DDGs) are still under construction – “active” is used to distinguish ships commissioned and in-service from those still under construction.

³ One of the East Coast ships was included in our validation and verification sample.

reviewed departures from specifications (DFSs) to determine if current procedures resulted in improved tracking and monitoring.

This audit was performed from 2 October 2009 – 18 October 2010. Conditions noted existed during FYs 2009 and 2010.

Reason for Audit

The objective of the audit was to verify that DON's maintenance program for U.S. Navy Aegis-equipped ships was effectively designed and implemented and had sufficient oversight to achieve the desired results. Specifically, this audit focused on internal controls and oversight of deferred O-level maintenance.

This audit was initiated by the Auditor General of the Navy as a result of the high visibility and media coverage relating to the inspections of two U.S. Navy Aegis-equipped ships. In March and April 2008, the *Navy Times* and *Defense News* published articles reporting that the *USS CHOSIN* and the *USS STOUT* were found "unfit for sustained combat operations" by INSURV. During an INSURV MI, the material condition of a ship is assessed, and its equipment and system's ability to perform required functions is evaluated. Title 10, section 7304, of the U.S. Code states, ships should be inspected by INSURV every 36 months as practical. However, the Joint Fleet Maintenance Manual (JFMM), dated 11 August 2009, states an MI through INSURV should be conducted no later than every 56-60 months. Typically, each ship is inspected every 5 years. In the case of the *USS CHOSIN* and the *USS STOUT*, both of these "unfit" warships were equipped with the Navy's Aegis Combat System (ACS), the most modern combat system integrating state-of-the-art radar and missile systems.

Further, on 20 May 2009, the former Vice Chief of Naval Operations (VCNO) stated that "the Navy requires a minimum Fleet of 313 ships by 2019." The VCNO said 215 of those 313 ships are already in service today. In the same statement, the former VCNO discussed the compounded impact since the 9-11 terrorist attacks of increased naval operational tempo (OPTEMPO) and surface combatant OPTEMPO. He said, "[This] impact of eight years of heightened operations has degraded the condition of the surface Fleet, and over the last few years it has become apparent that surface ship life cycle maintenance needs have not been met. Left unchecked, this trend will jeopardize their ability to reach expected service life, a key underpinning of the Navy's 30-year shipbuilding plan and 313-ship Navy."

Noteworthy Accomplishments

The Navy has taken several proactive steps to address the decline in surface ship material condition, including reassessing the resources for surface ship maintenance to ensure

surface ships reach their full service life. The former VCNO stated that until recently, surface ships have not had a dedicated life cycle organization responsible for maintaining the Integrated Class Maintenance Plans, building availability work packages, or providing technical oversight/approval for Fleet work deferral requests. The Surface Ship Life Cycle Maintenance Activity (SSLCM) was organized officially in May 2009. It is devoting a significant effort toward updating surface ship class maintenance plans.

In addition, in FY 2007, the Naval Surface Forces initiated the formation of eight class squadrons (CLASSRONs), one for each surface ship class. These CLASSRONs provide a bridge between the surface warfare enterprise (SWE) and surface ships. The goal is to assist in focusing and accelerating attention to waterfront concerns and specific class issues.⁴ The effectiveness of the SSLCM and CLASSRONs and any impact they may have on maintenance was not reviewed or evaluated in this audit.

Conclusions

We determined that the Fleet did not have sufficient controls or oversight to ensure deferred O-level maintenance actions for East Coast Aegis-equipped ships were accomplished efficiently and effectively. We conducted site visits at 11 randomly selected ships, reviewed and analyzed their ship and shore CSMP for deferred O-level maintenance, and reviewed processes and procedures for the accomplishment and prioritization of maintenance actions.

Deferred O-Level Maintenance. We found that the Fleet's internal controls and oversight of deferred maintenance actions did not provide reasonable assurance that O-level maintenance was accomplished efficiently and effectively. For the 11 ships audited, we found there was limited visibility outside the ship to ensure shipboard maintenance was performed. Specifically, maintenance measures used to manage O-level ship maintenance are dependent on individual ship needs and mission requirements. Currently, the ship's commanding officer or department heads (DHs) establish maintenance precedence within their respective work centers; however, there is limited oversight onboard ship to ensure completion of routine maintenance actions. We determined that tools available for prioritizing were not being used as intended, including: 1) 2-Kilo priority level field classification; 2) the casualty reporting (CASREP) system; and 3) the assignment of jobs to higher depot or intermediate maintenance levels. High-priority jobs coded O-level were not thoroughly tracked through completion by the ship or chain of command. As a result, maintenance actions were deferred as long as 2,049 days for CGs and 2,922 days for DDGs. The existence of multiple unconnected maintenance systems resulted in time-consuming data input and information management. It also resulted in visibility differences between systems. This

⁴ The Fleet plans to reorganize CLASSRONs in order to foster better C2 (command and control) relationships while maintaining the function and leveraging the improvements and benefits provided by CLASSRONs.

can lead to data input errors, delays, and data reliability issues. Additionally, our analysis of deferral reason codes pointed to lack of material as a contributing factor for deferring O-level maintenance. Maintenance actions not completed when needed may further degrade equipment or systems operability, increase repair costs, and impact ships' material readiness and mission capability.

INSURV Deficiency Work Request Upload. We determined the Fleet did not have sufficient controls in place to ensure O-level deficiencies (identified by INSURV) in Aegis-equipped ships were recorded to the ship's CSMP. Our analysis of 63 ships (22 CGs and 41 DDGs) indicated 50 ships, or 79 percent, had deficiencies loaded into the ship's CSMP as required by Navy guidance, and 13 ships, or 21 percent, did not. Furthermore, responsible shipboard personnel could not specify why some deficiencies were uploaded and others were not. Therefore, we concluded that even though the guidance outlines roles and responsibilities for involved parties, it does not clearly establish oversight responsibility and accountability for tracking INSURV 2-Kilos. This would ensure they are recorded in the CSMP and then tracked through completion. Work requests (deficiencies) not uploaded to CSMP result in lost visibility for the tracking and accomplishment of O-level jobs.

Observations: Zone Inspections and CSMP Review. In FYs 2008 through 2010, the Commander, Naval Surface Forces initiated a "Back to Basics" campaign to refocus the Fleet on proper maintenance through the use of the 3-M system. Specifically, the Back to Basics campaign emphasized the importance of conducting zone inspections and having department heads (DH) properly review CSMPs. The zone inspection, a critical self-assessment tool to evaluate a ship's condition through early identification of material deficiencies, provides an opportunity to take corrective actions at the lowest maintenance level possible. During our 11 ship visits, we completed a limited visual review of zone inspection discrepancy listing (ZIDL) forms for accuracy and completion, with a focus on documentation of corrective actions. We found incomplete forms and spaces not inspected according to the requirements.

Since CSMPs are the source documents for all ships' maintenance actions and off-ship material support, they should be updated and accurate. The Back to Basics campaign reinforced the importance of having division officers, along with the Lead Chief Petty Officer, review CSMPs weekly. The campaign also added the requirement for DHs to document notes of the monthly review in Block 35 of the work request through OMMS-NG. The Navy is at risk of making critical maintenance decisions based on inaccurate and unreliable information when ships do not have a sufficient zone inspection program and accurate, updated CSMPs.

Communication with Management. Throughout the audit, we kept the USFF (N43) Director, Fleet Maintenance, informed of the conditions noted. Specifically, we held meetings with USFF (N43) Director, Fleet Maintenance, to obtain his endorsement of the audit (27 October 2009) and report on results (10 March 2010). Our exit briefing with

USFF (N43) was held on 13 August 2010. We met with the Surface Ship Maintenance Program Manager, USFF (N43B) to brief them during research (2 September 2009), and they were also guests of subsequent meetings. We met with Commander, Naval Surface Forces Pacific Fleet (COMNAVSURFPAC) for an initial briefing during the audit survey phase (2 February 2010), and they were present during our exit brief with Commander, Naval Surface Force (N6) (9 August 2010). Finally, we met with the Deputy Chief Branch Head for Ship and Submarine Readiness, CNO, to obtain background information (17 November 2009).

Federal Managers' Financial Integrity Act

The Federal Managers' Financial Integrity Act of 1982, as codified in Title 31, United States Code, requires each Federal agency head to annually certify the effectiveness of the agency's internal and accounting system controls. Recommendations 1 through 5 made in this report address issues related to internal controls over deferred Organizational-level maintenance and prioritization, including management oversight, as noted below. In our opinion, the conditions noted in this report may warrant reporting in the Auditor General's annual FMFIA memorandum identifying management control weaknesses to the Secretary of the Navy.

Corrective Actions

We recommend that U.S. Fleet Forces Command:

1. Develop consistent guidance for the accomplishment of O-level maintenance throughout the maintenance management system with an emphasis on improving the accuracy of discrepancy documentation and CSMP reviews, tracking the accomplishment of work requests, and prioritizing maintenance actions;
2. Develop and implement processes and procedures to ensure casualty reports (CASREPs) are completed for primary and secondary mission essential deficiencies in accordance with NWP 1-03-1, November 1987 and work requests are appropriately assigned priority levels in accordance with NAVSEA Instruction 4790.8B, 13 November 2003;⁵
3. Interface and simplify maintenance management systems to reduce data input time and errors, reduce redundant data entries to multiple systems, improve data reliability, and eliminate visibility disparity among systems; and
4. Implement controls over the process for uploading MI deficiencies in the CSMP by creating an audit trail to ensure uploads are carried out and tracked through completion.

⁵ Recommendation 2 was changed during the audit utilization process to include specific guidance.

We recommend that U.S. Pacific Fleet:

5. Implement controls over the process for uploading MI deficiencies in the CSMP by creating an audit trail to ensure uploads are carried out and tracked through completion.

Actions taken by Commander, U.S. Fleet Forces Command and Commander, Pacific Fleet Command meet the intent of Recommendations 4 and 5, and the recommendations are closed. Actions planned by the Commander, U.S. Fleet Forces Command meet the intent of Recommendations 1 through 3. These recommendations are considered open pending completion of the planned corrective actions.

Section A:

Findings, Recommendations, and Corrective Actions

Finding 1: Deferred Organizational-Level Maintenance

Synopsis

The Fleet did not have sufficient controls or oversight in place to ensure deferred Organizational (O-level) maintenance for U.S. Navy Aegis-equipped East Coast ships was accomplished efficiently and effectively. Chief of Naval Operations Instruction (OPNAVINST) 4700.7K, “Maintenance Policy for U.S. Ships,” issued 11 July 2003, states that a tailored maintenance program plan must be developed and maintained for each ship class providing details of essential maintenance required to retain high material readiness. Ship maintenance is to be performed at the lowest level that can best ensure proper accomplishment. Furthermore, there was limited visibility for ensuring that shipboard maintenance was performed effectively. This occurred because: (1) there were different levels of visibility between ship and shore maintenance data used for maintenance planning and decision making; (2) prioritization tools were not being used as intended, which was demonstrated by the fact that first priority work requests had an average age of 235 and 179 days for Ticonderoga Class Cruisers (CGs) and Arleigh Burke Class Destroyers (DDGs) respectively; and (3) multiple unconnected management information systems existed, requiring cumbersome data entry and management and leading to documentation delays and input errors. Additionally, our analysis of deferral reason codes showed ‘lack of material’ was a contributing factor for deferring O-level maintenance. However, this audit was focused on internal controls and oversight of deferred O-level maintenance, which did not allow the needed time to uncover the underlying reasons lack of material was so prevalent. Therefore, an audit on the efficiency of the parts and materials process may be needed to address additional maintenance issues. The Navy’s maintenance program, as designed, will limit the ships’ ability to accomplish daily O-level maintenance efficiently for accurately reflecting and meeting the ship’s required state of readiness. The current program also decreases the lifespan of the Navy’s surface ships.

Discussion of Details

Background and Pertinent Guidance

The Board of Inspection and Survey (INSURV) explained that in the past, ship maintenance was performed on a time-based maintenance schedule where tasks were completed, whether required or not. Currently, ship maintenance is performed under condition-based maintenance (CBM), where the condition of the equipment directs tasks, with periodic assessments. While this method allows for maintenance to be conducted only when necessary, it makes budgeting difficult and accurately documenting maintenance requirements essential for adequate funding. Required corrective maintenance is documented in the ships' Current Ship Maintenance Project (CSMP). Commander, Fleet Forces Command Instruction (COMFLTFORCOM Instruction) 4790.3, "Joint Fleet Maintenance Manual," (JFMM) Volume II, 11 August 2009, states that the CSMP is the basis for all maintenance funding. The CSMP provides shipboard maintenance managers with a consolidated listing of known material discrepancies that require corrective action.

In accordance with Navy's Maintenance and Material Management (3-M) system, these discrepancies are documented for inclusion in CSMP through the completion of individual 2-Kilos, or work requests (for the purposes of this report, the terms "2-Kilo," "work request," "deferred maintenance," and "job sequence number" (JSN) are used interchangeably). Shipboard personnel complete a work request in the Organizational Maintenance Management System - Next Generation (OMMS-NG) system, which includes completing numerous fields of information, such as the maintenance priority level. Naval Sea Systems Command (NAVSEA) Instruction 4790.8B, 13 November 2003, requires the completion of Block 41 (priority code) of form NAVSEA 4790/2K and outlines the four different maintenance Priority Levels: Priority 1 (Mandatory), Priority 2 (Essential), Priority 3 (Highly Desirable), and Priority 4 (Desirable). These are shown below in Table 1, along with a description of when the level should be selected. Another required field is the deferral reason code entry. These codes are used to classify why maintenance was not accomplished. There are 10 standard deferral reason codes, including: lack of material, "backlog ships' forces," "other," and a few dealing with training. Deferred maintenance items help to identify the material condition of the ship.

Table 1 – Work Request Priority Code Levels

Level	Description
1 - Mandatory	Critical safety or damage control item. Required for performance of ship's mission. Required to sustain bare minimum acceptable level of human needs and sanitation. C-4 CASREP (Casualty Report) [required] on equipment.
2 - Essential	Extremely important safety or damage control item. Required for sustained performance of ship's mission. Required to sustain normal level of basic human needs and sanitation. Required to maintain overall integrity of ship or a system essential to ship's mission. Will contribute so markedly to efficient and economical operation and maintenance of a vital ship system that the pay-off in the next year will overshadow the cost to accomplish. Required for minimum acceptable level of preservation and protection. C-3 CASREP [required] on equipment.
3 - Highly Desirable	Important safety or damage control item. Required for efficient performance of ship's mission. Required for overall integrity of equipment or systems, which are not essential, but are required as backups in case of primary system failure. Will contribute so markedly to efficient and economical operation and/or maintenance of a vital ship system that the payoff in the next year will at least equal the cost to accomplish. Will effect major reduction in future ship maintenance in an area or system that presently cannot be maintained close to acceptable standards. Required to achieve minimum acceptable level of appearance. C-2 CASREP [required] on equipment.
4 - Desirable	Some contribution to efficient performance. Some contribution of normal level of human comfort and welfare. Required for overall integrity of other than an essential system or its backup system. Will contribute to appearance in an important area. Will significantly reduce future maintenance.

NAVSEA Instruction 4790.8B, issued 13 November 2003, defines a deferred maintenance action as a maintenance requirement that meets one or more of the following requirements: requires assistance from an external activity or other work center; is not expected to be accomplished by ship forces within a certain time period; is an uncorrected deficiency reported by the Board of Inspection and Survey (INSURV) or other inspecting activity; or is a safety condition. Per Navy Warfare Publication (NWP) 1-03.1, November 1987, a casualty report (CASREP) is required for maintenance deficiencies that will not be corrected within 48 hours and reduce the unit's ability to perform a primary or secondary mission. A CASREP is used to report significant equipment casualties. This alerts ship and shore chains of command about operational limitations and assists in maintaining the units' combat-ready status. In addition, COMNAVSURFOR Instruction 4790.1E, 29 April 2009, requires a CASREP for work requests with a Priority Level 1, 2, or 3. Specifically, Priority 1 should have an associated C-4 (category 4) CASREP, Priority 2 a C-3 CASREP, and Priority 3 should have a C-2 CASREP. Priority 4 maintenance does not require a CASREP. If used correctly, the priority level of a work request should also indicate equipment casualty status. Frequent misuse of priority levels has reduced the significance of accurately recorded high-priority items.

Audit Results

We found insufficient controls and oversight to ensure that deferred O-level maintenance for U.S. Navy Aegis-equipped East Coast ships was performed efficiently and effectively.

COMFLTFORCOM Instruction 4790.3, “Joint Fleet Maintenance Manual” (JFMM), Volume II (11 August 2009), states that an effective maintenance program ensures maintenance is accomplished at the lowest level and at the least cost. Furthermore, management of CSMP by all involved with the maintenance process is essential. An accurately maintained CSMP is used to establish a ship’s capability-based level of readiness. It further assures that those jobs deemed most critical to mission accomplishment will receive priority maintenance resources. To assess the potential magnitude of deferred maintenance and the prioritization of O-level maintenance actions, we obtained the shore CSMPs (as of 8 February 2010), for CGs and DDGs currently in service and commissioned prior to 2004. This allowed us to capture only ships that had completed a material inspection (MI) by INSURV, which occurs approximately every 5 years. During our initial audit phase, we conducted site visits aboard two East⁶ and two West Coast ships. We identified a universe of 30 East Coast ships commissioned prior to CY 2004. Of these, 20 ships were available at the time of our review for validation and verification testing. From the 20 ships, we randomly selected and visited a total of 11 ships based on availability. This included five CGs and six DDGs, representing 50 percent and 30 percent of the total number of active ships in our universe respectively. On each ship, we reviewed a minimum of 30 JSNs or work requests from the CSMP data. Our analysis also included a cursory review of departure from specifications (DFS), and temporary standing orders (TSO). We used responses from questionnaires and interviews with maintenance personnel to confirm currently employed maintenance processes and procedures. The following sampling methodology was used to determine which ship maintenance actions by JSN we would review during the ship visits:

- Priority 1 – 100 percent;
- Priority 2 – 100 percent for each ship, or random sample of 10 JSNs (whichever is smaller);
- Priority 3 – 100 percent for each ship, or random sample of 10 JSNs (whichever is smaller); and
- Priority 4 – In cases where Priority 1/2/3s do not equate to a minimum of 30 JSNs, random sample Priority 4s until 30 JSNs are reached.

⁶ One of the East Coast ships was included in our validation and verification sample.

Through interviews with personnel, we found that ships manage their O-level maintenance mainly through the use of 8 o'clock Reports⁷ and CSMP. Only the 11 ships we visited are included in this finding.

At the request of our customer, U.S. Fleet Forces Command, Fleet Maintenance (N43), we reviewed DFSs. They were interested in whether procedure changes had resulted in improved tracking and monitoring. We were not able to evaluate improvements, since we did not have a baseline with which to compare new procedures. However, to determine if current procedures resulted in improved tracking and monitoring, we reviewed the DFS process for accuracy. We compared the DFSs obtained from the 11 ships visited to those maintained on the Commander, Surface Forces Command (SURFOR) Web site. Ship equipment and components are expected to be operated within the parameters established by the manufacturer and within the same condition as the ship was built. A DFS is a request for a major or minor deviation in the intended operation of a specific equipment item or component. The situation and degree of noncompliance is listed in the DFS. A JSN is included to enable tracking of the accomplishment of work necessary to clear the DFS. We checked to ensure that information received from the ship matched information contained on the Web site, DFSs were current, and a JSN existed for each one. We noted minor variances among the documents collected during ship visits and the information contained in the database. These included missing DFSs from one source, or missing JSNs. Overall, we determined the current DFS process is being effectively employed.

Factors Affecting Accomplishment of Deferred O-Level Maintenance

Current Ship Maintenance Project (CSMP) Review

During each of our ship visits, we reviewed randomly selected work requests from the 8 February 2010 shore CSMP, and compared them with the work requests in the ships' OMMS-NG or CSMP. As shown in Table 2, we randomly selected 221 work requests for the CGs. Of these, 115 were open and reviewed, 93 were closed, 7 had invalid work centers, and 6 were categorized as "other." We randomly selected 180 work requests for the DDGs. Of these, 56 were open and reviewed, 117 were closed, 6 had invalid work centers, and 1 was listed as "other." When validating and tracking the work requests for the 11 ships, we found several items were closed. We learned from ship personnel that this meant they were no longer visible in OMMS-NG. Additionally, we learned a job is closed when a noted deficiency is corrected and tested.

⁷ Eight o'clock reports are daily equipment status reports given to the commanding officer, typically including CASREP, TSO, DFS, and parts information.

Table 2 – Work Requests Reviewed

	Open	Closed	Invalid WCTR	Other	Total
Cruisers (CG)	115	93	7	6	221
Destroyers (DDG)	56	117	6	1	180
Total	171	210	13	7	401

Ship/Shore CSMP Variances

We noted numerous work request priority level changes made to jobs not reflected in the shore CSMP file. This is because the shore and ship CSMPs are not connected. Therefore, once a work request is uploaded to the shore CSMP, changes made are not reflected on the shore CSMP unless the work request is uploaded again. This creates a disparity between ship and shore visibility of maintenance related data. This could potentially result in shore-based management not having reliable and accurate data to support maintenance planning and decision making.

We noted 29 (25 percent) priority level changes for the 115 CG work requests reviewed, and 19 (34 percent) priority level changes for the 56 DDG work requests reviewed. INSURV reviewed the 12 (11 CG, 1 DDG) Priority Level 1 work requests that were reduced by the ship to a lower priority level. In their opinion, 8 (67 percent) were justifiably changed to a lower level. They found 4 (33 percent) should have remained at Priority Level 1.

To determine how many changes occurred subsequent to the work request being uploaded, we compared shore CSMP priority levels of each work request with the priority levels assigned on the ship CSMP during our review. Tables 3 and 4 show the work request counts by priority level from the shore CSMP (original assignment), and work request counts by priority level from our ship review of both CGs and DDGs. All changes noted resulted from a lowering of an assigned priority level. The priority level is assigned by the individual creating the job. It is then screened by the Maintenance and Material Management Coordinator (3MC) prior to being uploaded to the shore CSMP. Though our focus was on priority level changes, any change to a ship work request that was not reloaded would result in work request information variances.

In the tables below, a work request priority level change would count as two changes, because it impacts two priority levels. For example if a priority level was reduced from Priority 1 to Priority 2, we would have a lower count assigned to Priority Level 1 and an increased count assigned to Priority Level 2. However, only one work request is actually changed. Therefore, the number of total changes was divided by two.

Table 3 – Priority Level of CG O-Level Deferred Maintenance

	Cruisers (CG)		
	Shore CSMP	Ship CSMP	# of Changes
1-Mandatory	70	59	11
2-Essential	17	8	9
3-Highly Desirable	21	12	9
4-Desirable	7	36	29
Total	115	115	58

Table 4 – Priority Level of DDG O-Level Deferred Maintenance

	Destroyers (DDG)		
	Shore CSMP	Ship CSMP	# of Changes
1-Mandatory	2	1	1
2-Essential	11	6	5
3-Highly Desirable	29	16	13
4-Desirable	14	33	19
Total	56	56	38

Assigned Priority Levels

During our ship visits, we reviewed a total of 171 work requests, of which 102 were Priority Level 1, 2, or 3, and 69 were Priority Level 4 (the break-out is displayed in Table 5). One CG ship sampled had a disproportionately large number (49) of Priority Level 1 work requests (out of a total of 70 for CGs). The requirement to identify the appropriate priority levels is contained in NAVSEA Instruction 4790.8B, 13 November 2003 for work requests. In addition, per COMNAVSURFOR Instruction 4790.1E, issued 29 April 2009, a CASREP is required for work requests with a Priority Level 1, 2, or 3, as these may represent primary or secondary mission critical deficiencies. Of the 102 work requests reviewed with a Priority Levels 1, 2, or 3, only four, or 4 percent, had completed required CASREPs, and 98 (or about 96 percent) had not. These CASREPs are essential for communicating to senior leadership significant equipment casualties that may cause operational limitations and impact the units' combat-ready status. The CASREP process is used to ensure resources are allocated to mission critical deficiencies.

INSURV reviewed the 60 (59 CG, 1 DDG) Priority Level 1 work requests identified during our site visit to determine whether the correct priority level assignment was used. The average age of the 59 CG work requests was 235 days at the time of our review, and 179 days for the 1 DDG request. In their expert opinion 19, or 32 percent, were correctly assigned Priority Level 1. The average age of these 19 jobs at the time of our review was 142 days. There were no CASREPs completed for these jobs. When a CASREP is not completed for a warranted deficiency, the item will likely not receive the necessary attention and resources for swift resolution. INSURV also found that 41, or 68 percent, were incorrectly assigned to Priority Level 1. At the time of our review, these 41 jobs had an average age of 203 days. If used correctly, the priority level of a work request should indicate equipment casualty status. Frequent misuse of priority levels has reduced the significance of accurately recorded high-priority items.

Due to significantly limited resources, some in the maintenance community reported a marked increase in the use of CASREPs to accomplish needed repairs and obtain needed parts and material. INSURV further advised that the number of outstanding CASREPs has doubled in the last few years. Emergent funds are used to secure items with CASREP levels 3 and 4. The fact that our review found a low number of CASREPs indicates that ship forces are not properly using the 2-Kilo priority level field. Furthermore, it shows that mission-critical items with a proper priority level may not receive the attention and resources that could result from a completed CASREP. Additionally, the overuse of the CASREP system could potentially negate its ability to properly respond to emergent requirements.

Table 5 – Open and Reviewed Work Request by Priority Level

	Cruiser	Destroyer	Total	CASREP	Required CASREP
1-Mandatory	59	1	60	0	C-4
2-Essential	8	6	14	0	C-3
3-Highly Desirable	12	16	28	4	C-2
Total	79	23	102	4	

Prioritization of O-Level Maintenance

From interviews and questionnaires conducted with key maintenance personnel during our ship visits, we determined that few shipboard metrics and management tools are used in priority setting. Through our visits, we determined that maintenance measures used to manage O-level ship maintenance are dependent on individual ship needs and mission requirements. Department heads determine these measures based on mission needs, tools, parts, and materials available. The ship’s commanding officer is ultimately responsible for setting ship-wide priorities after meeting with maintenance team personnel and holding discussions relating to major inspections, upcoming shipyard work, and equipment status. During these meetings, the maintenance team looks at critical repairs and those activities capable of accommodating the repairs. Ultimately, priority decisions are a function of resources available: time, people, and money. The ship must work with these constraints.

We were advised by CNO (N43), that O-level work is maintenance that can be accomplished by the ship force. Maintenance levels are based on capacity (i.e. number of people) and capability (experience and equipment). Guidance does not specifically state at what maintenance level work must be accomplished. It is a “bump-up” process in which the depot maintenance level activity accomplishes all maintenance (funds permitting) that could not be accomplished by the lower levels. Some maintenance completed at the depot-level may be accomplishable at a lower level, but is flowed up to the depot-level due to capability and capacity constraints. However, the depot-level has an assignable cost for O-level maintenance, and deferrals to this level can be costly. Therefore, it is essential that maintenance work be accomplished at the lowest level possible and in a timely manner. Work not completed when needed may result in further deterioration, thereby forcing the work to a higher maintenance level, increasing the extent and cost of repairs and potentially impacting a ship’s mission capabilities.

Multiple Unconnected Systems

The Maintenance and Material Management (3-M) system consists of OMMS-NG and a separate SKED (scheduling) program. Preventative maintenance is managed with the SKED program, and the ship CSMP comes from OMMS-NG. The 3-M database, accessible through the Open Architectural Retrieval System (OARS), is the data repository for all work requests, current and historic. Relational Supply, or R-Supply, is the system used to track materials and parts. The Regional Maintenance Automated Information System (RMAIS) is used by the Regional Maintenance Centers (RMC) to broker jobs. CASREPs are contained in the TYCOM (Type Commander) Readiness Management System (TRMS). Additionally, we were informed by Naval Surface Warfare Center (NSWC), Corona Division, that there are numerous work request writing software applications (ROCKETS, FAST, PRISMS, AWN, PVAT).

The visibility of maintenance actions and work requests differs among the various maintenance systems. They are not all interfaced, thus requiring the entry of information into multiple systems. Using multiple systems resulted in cumbersome data entry. A lack of connectivity among information systems inhibits their ability to exchange data, and creates a disparity in the reliability, availability, and visibility of data. It also affects the user's ability to manage and use data.

Maintenance Figure of Merit (MFOM) and Afloat Toolbox for Maintenance (ATM)

The Navy ship maintenance community has developed Web-based software programs, MFOM 2.0 and ATM. MFOM 2.0 is designed to be “the single, authoritative, centrally managed application that provides the necessary data upgrades and improvements to support readiness and maintenance reporting.” ATM is designed to facilitate the sharing of data among existing maintenance systems by relating their underlying configuration data. These programs state they will reduce data duplication, improve data reliability, and eliminate disparity in visibility. Although it appears MFOM and ATM should assist with data visibility and reliability, implementation is taking longer than anticipated, and it is unclear when the programs will be fully implemented (see additional ‘MFOM and ATM’ information in Exhibit A).

Deferral Reason Codes for O-Level Maintenance

During our ship visits, we reviewed the open work requests to identify and quantify the deferral reason codes. The deferral reason code frequently used was “lack of materials,” which accounted for 77 or (75 percent) of the 102 repairs falling under Priority Levels 1-3. Some other deferral reasons included a ship's force backlog, “other,” and training reasons. According to NAVSEA Instruction 4790.8B, “lack of materials” signifies that the work is within the capability of a ship's force, but cannot be accomplished due to lack

of parts and tools, among other things. We did not review the efficiency of the parts process. However, through interviews with key maintenance personnel we learned, part orders were often cancelled by personnel both on and off the ship. While the parts information for ordering is entered into OMMS-NG when completing a work request, parts are actually tracked through the R-Supply system. Those ordering the parts do not have access to this system and therefore, have limited visibility of an order's status. Common reasons given for the cancellation of part orders were: the incorrect Allowance Part Listing (APL), lack of funding, minimum quantity for order not met, perceived stock piling of parts, or obsolete items. Based on this analysis, "lack of materials" was the primary deferral reason code. However, this audit was focused on internal controls and oversight of deferred O-level maintenance, which did not allow the time needed to identify the underlying reasons "lack of materials" was so prevalent. Therefore, further review in a subsequent audit on the efficiency of the parts and materials process may be warranted.

Recommendations and Corrective Actions

Our recommendations, summarized management responses, and our comments on the responses are presented below. The complete text of management responses is in Appendix 1.

We recommend that U.S. Fleet Forces Command:

Recommendation 1. Develop consistent guidance for the accomplishment of Organization-level maintenance throughout the maintenance management system with an emphasis on improving the accuracy of discrepancy documentation, Current Ship Maintenance Project review, the tracking of work request accomplishments, and prioritizing maintenance actions.

Management response to Recommendation 1. Concur. A new chapter for the Joint Fleet Maintenance Manual on the documentation of equipment malfunctions and deficiencies to provide guidance on accurately documenting ship's material condition in a timely and expeditious fashion has been drafted. The guidance will be included in the July 2011 update to the Joint Fleet Maintenance Manual.

Naval Audit Service comments on response to Recommendation 1. Actions planned by management in response to this recommendation and Recommendation 3 to develop consistent guidance for accomplishing Organization-level maintenance through the inclusion of a new chapter in the Joint Fleet Maintenance Manual on the documentation of equipment malfunctions and deficiencies that specifically addresses improving the accuracy of: 1) discrepancy documentation, 2) Current Ship Maintenance Project reviews, 3) work requests tracking; and as indicated in management's

response to Recommendation 3 to deploy the Automated Work Notification application that will automate the reporting of material readiness through the use of 2D barcodes, dropdown menus, and “auto-fill” the status and priority code, meet the intent of the recommendation. In communications with management on 23 November 2010, they indicated that until the Automated Work Notification is fully deployed, U.S. Fleet Forces Command will provide guidance through the Joint Fleet Maintenance Manual to clarify the selection of the correct status and priority codes. These combined actions meet the intent of the recommendation. This recommendation is considered open until completion of agreed on actions.

Recommendation 2.⁸ Develop and implement processes and procedures to ensure casualty reports are completed for primary and secondary mission essential deficiencies in accordance with Navy Warfare Publication 1-03-1, and work requests are appropriately assigned Priority Levels in accordance with Naval Sea Systems Command Instruction 4790.8B.

Management response to Recommendation 2. Concur. U.S. Fleet Forces is deploying new casualty report software that meets the latest software and security requirements and integrates with Automated Work Notification to assist in generating and tracking casualty reports. Additionally, the introduction of Equipment Operating Capability as part of an improved method to document the actual material condition of the equipment or system will further clarify when a casualty report is required to report an operational limitation to primary or secondary mission area or task. U.S. Fleet Forces will include a new chapter in the July 2011 update to the Joint Fleet Maintenance Manual to capture the new processes and procedures.

Naval Audit Service comments on response to Recommendation 2.

Actions planned by management meet the intent of the recommendation. New casualty report software will be integrated with the Automated Work Notification system, which will prompt users to complete casualty reports at the appropriate time. This recommendation is considered open until completion of agreed on actions.

Recommendation 3. Interface and simplify maintenance management systems to reduce data input time and errors, reduce redundant data entries to multiple systems, improve data reliability, and eliminate visibility disparity among systems.

Management response to Recommendation 3. Concur. U.S. Fleet Forces Director, Fleet Maintenance (N43), is deploying an Automated Work Notification application as a part of the Maintenance Figure of Merit family of systems to

⁸ Recommendation 2 was changed during the audit utilization process to include specific guidance.

support timely and accurate reporting of material readiness. An Automated Work Notification further improves readiness reporting processes and maintenance data entry by providing the user the ability to precisely describe deficiencies against objects in the Maintenance Figure of Merit model by automating the reporting process through the use of 2D barcodes, dropdown menus, and auto-fill. This automation complements the data management and visualization capabilities offered in the Maintenance Figure of Merit by drastically reducing the manual entry data fields by 96 percent. Deployment of the Automated Work Notification should be complete by December 2012.

Naval Audit Service comments on response to Recommendation 3. The planned actions meet the intent of the recommendation. This recommendation is considered open pending completion of the agreed on actions. Because the target completion date is more than 1 year from the publication of this report, we request that management provide Naval Audit Service an update by 30 December 2011.

Finding 2: INSURV Deficiency Work Request Upload

Synopsis

The Fleet did not have sufficient controls in place to ensure deficiencies identified by INSURV during MIs were recorded in the ship's CSMP for U.S. Navy Aegis-equipped ships. INSURV Instruction 4730.1F, issued 28 February 2008, states that all deficiencies documented during the INSURV inspections will be converted into a formal work request (2-Kilo) and provided for upload in the ship's CSMP. We reviewed 63 Aegis-equipped ships (22 CGs and 41 DDGs). We determined that INSURV MIs identified deficiencies were frequently not consistent with what was recorded in the CSMP. This occurred because the guidance does not clearly establish oversight responsibility and accountability for tracking INSURV 2-Kilos. Without this specific guidance, it is harder to ensure work requests are recorded in the CSMP and then tracked through completion. For example, 13 of the 63 ships in our universe did not have any documented work requests required to fix the INSURV-identified deficiencies. Based on our review, we determined that of the work requests uploaded, 98 percent were identified as O-level maintenance. This indicated that the majority of the work requests not uploaded would be O-level jobs. When ships do not upload work requests for INSURV-identified deficiencies, Navy loses visibility and has no assurance the required work is documented, tracked, and ultimately accomplished at the O-level.

Discussion of Details

Background and Pertinent Guidance

With increased operating tempo, it becomes critical that a ship's state of readiness be accurately reflected. INSURV was originally established in 1868 by Congress to ensure that the United States' Naval Ships were properly equipped for prompt, reliable, sustained mission readiness at sea. Through MIs, a ship's material condition is inspected and assessed. MIs also provide commanding officers and higher authorities with assurance that mechanisms to identify, document, and resolve material deficiencies are adequate. INSURV Instruction 4730.1F, "Material Inspections (MI) of Surface Ships," states all deficiencies documented during the INSURV inspection will be converted to a formal work request (2-Kilo) and provided to the ship for upload into the ship's CSMP.

COMFLTFORCOM Instruction 4790.3 (JFMM), 11 August 2009, Volume IV, Chapter 26, "Board of Inspection and Survey Material Inspection Policy," says the INSURV Coordinator (an appointed Naval officer) shall collect and track all INSURV deficiencies identified during the Underway Material Inspections. The INSURV Board will provide the ship with a printout of new deficiencies found during the inspection. The final forms

generated by INSURV will be screened by TYCOM following the trial. Whenever an item is considered not cost-effective to correct or is inconsistent with criteria, the TYCOM will authorize passing the item to the history file. Immediately after the INSURV inspection, ship representatives will meet with the TYCOM representative to determine the disposition of the deficiencies. Deficiencies will then be reported by entering them into the ship's CSMP within 30 days following completion of the inspection. The ship's force shall document as completed all deficiencies corrected within 7 days. All other outstanding deficiencies originated by INSURV shall be incorporated into the CSMP as soon as possible, but no later than 30 days following the inspection.

Audit Results

The Fleet did not have sufficient controls in place to ensure deficiencies identified by INSURV MIs were recorded to the ship's CSMP for U.S. Navy Aegis-equipped ships. The upload of the work request is important to ensure O-level deficiencies are documented for completion. When deficiencies are not documented in the CSMP, the Navy loses visibility of work that needs to be accomplished.

We reviewed the CSMPs for all 63 East and West Coasts ships in our universe for CYs 2005 through 2009. Each of the 22 CGs and 41 DDGs were placed in service prior to 2004, meaning each ship in our sample should have completed at least one INSURV MI. For the 63 ships reviewed, we found that 79 percent of the ships' work requests from the INSURV MIs were entered into the ships' CSMPs. Further, 21 percent did not have any documented work requests required to fix the INSURV-identified deficiencies. Therefore, we concluded that even though guidance outlines roles and responsibilities for involved parties, it does not clearly establish oversight responsibility and accountability to ensure INSURV deficiencies are uploaded into CSMP and tracked through completion.

Accuracy of Work Request Uploads

Deficiencies documented during INSURV MIs are to be converted to a formal work request and provided to the ship for upload into the ship CSMP. The 3-M database, accessible through OARS, is the data repository for all current and historic work requests. According to knowledgeable Naval Surface Warfare Center (NSWC) personnel, INSURV's work requests have an R, S, or T prefixed JSN. We asked NSWC Corona, CA to extract all work requests for CYs 2005 through 2009 with R, S, or T prefixed JSNs. Each file was sorted, and we removed any jobs with missing or invalid INSURV numbers. A pivot table was created with the remaining data for each spreadsheet. Thirteen ships did not have any INSURV work requests for the 5-year time period and are listed in Table 6. Upon further review, these same 13 ships had no INSURV work requests uploaded into their CSMP within 30 days of the inspection as required by

COMFLTFORCOM Instruction 4790.3. We also reviewed the 3-M history file to determine if any INSURV deficiencies had been passed to the history file. None were found in the 3-M history file or data repository. We determined that 98 percent of the deficiency work requests uploaded for 50 of the 63 East and West Coast ships was recorded as O-level maintenance. Therefore, the work requests not uploaded to the CSMP for the remaining 13 ships may result in lost visibility for tracking and accomplishment of O-level jobs.

Table 6 - Ships missing INSURV deficiency uploads

Homeport	Ship Hull	Ship Name	INSURV Inspection Date
San Diego, CA	CG 52	<i>USS BUNKER HILL</i>	23-Oct-2009
Norfolk, VA	CG 55	<i>USS LEYTE GULF</i>	4-Nov-2005
San Diego, CA	CG 57	<i>USS LAKE CHAMPLAIN</i>	27-Oct-2006
Mayport, FL	CG 64	<i>USS GETTYSBURG</i>	20-May-2005
Pearl Harbor, HI	CG 73	<i>USS PORT ROYAL</i>	20-Jul-2007
Norfolk, VA	DDG 55	<i>USS STOUT</i>	14-Mar-2008
Norfolk, VA	DDG 57	<i>USS MITSCHER</i>	25-Apr-2008
Yokosuka, JP	DDG 62	<i>USS FITZGERALD</i>	27-Mar-2009
San Diego, CA	DDG 65	<i>USS BENFOLD</i>	10-Feb-2006
Pearl Harbor, HI	DDG 70	<i>USS HOPPER</i>	29-Jan-2007
San Diego, CA	DDG 76	<i>USS HIGGINS</i>	18-Feb-2005
Norfolk, VA	DDG 78	<i>USS PORTER</i>	4-May-2007
Pearl Harbor, HI	DDG 90	<i>USS CAFE</i>	21-Nov-2008

To determine the impact of the 2-Kilos not being uploaded following MIs, we contacted INSURV. We obtained the number of deficiencies that should have been uploaded for four of the East Coast ships we visited during our initial validation and verification phase of the audit. The number reflects each ship's deficiencies identified during their INSURV MI. The results are as follows:

Table 7 - Selected East Coast Deficiencies

Ships	Deficiencies
CG 55 <i>USS LEYTE GULF</i>	1,398
CG 64 <i>USS GETTYSBURG</i>	1,051
DDG 55 <i>USS STOUT</i>	1,554
DDG 78 <i>USS PORTER</i>	1,846

We interviewed personnel to determine what led to INSURV 2-Kilos not being recorded in the CSMP. They were unable to provide evidence to support where the breakdown occurred. In our opinion, current guidance does not clearly establish oversight responsibility and accountability for tracking INSURV 2-Kilos to ensure they are recorded in CSMP and then tracked through completion. Essentially, the Navy does not have sufficient controls in place nor an audit trail to ensure INSURV's material deficiencies are captured on the ships' CSMP.

Recommendations and Corrective Actions

Our recommendations, summarized management responses, and our comments on the responses are presented below. The complete texts of management responses are in the Appendices.

We recommend that U.S. Fleet Forces Command:

Recommendation 4. Implement controls over the process for uploading material inspection deficiencies in the Current Ship Maintenance Project by creating an audit trail to ensure uploads are carried out and tracked through completion.

Management response to Recommendation 4. Concur. U.S. Fleet Forces has consolidated down to one material assessment software application and transitioned the Board of Inspection and Survey, surface ships, and aircraft carriers to Automated Work Notification as their reporting software that permits uploading of the documented deficiencies to the ship's Current Ship Maintenance Project for all surface ships and aircraft carriers. The transition for submarines is scheduled for December 2011. AWN provides an auditable trail to ensure INSURV deficiencies are tracked from creation to adjudication.

Naval Audit Service comments on response to Recommendation 4. The management response indicates that action has been taken to ensure material inspection deficiencies are uploaded and tracked through completion for surface ships, which were within the scope of this audit, and aircraft carriers.

In subsequent communication, management indicated that the actions were completed as of 26 February 2010. The actions meet the intent of the recommendation. This recommendation is considered closed.

We recommend that U.S. Pacific Fleet Command:

Recommendation 5. Implement controls over the process for uploading material inspection deficiencies in the Current Ship Maintenance Project by creating an audit trail to ensure uploads are carried out and tracked through completion.

Management response to Recommendation 5. Concur. Recommendation 5 is the same as Recommendation 4 assigned to U.S. Fleet Forces. Both Fleets are working together to consolidate to Automated Work Notification, a single software application, as their reporting software for all material assessments. The transition to Automated Work Notification by Board of Inspection and Survey, surface ships, and aircraft carriers is complete. Board of Inspection and Survey deficiencies are documented and tracked until appropriately adjudicated. Automated Work Notification provides an auditable trail to ensure documented deficiencies are tracked from creation to adjudication.

Naval Audit Service comments on response to Recommendation 5. The management response indicates that action has been taken to ensure material inspection deficiencies are uploaded and tracked through completion for surface ships, which were within the scope of this audit, and aircraft carriers. In subsequent communication, management indicated that the actions were completed as of 26 February 2010. The actions meet the intent of the recommendation. This recommendation is considered closed.

Observations: Zone Inspections and CSMP Review

Discussion of Observations

Commander, Naval Surface Forces expressed his concern about surface ships' ability to self-assess. He directed specific corrective actions with the release of his "Back to Basics" messages in FYs 2009-2010, aimed at refocusing the Fleet on proper maintenance through the use of the 3-M system. He stated, "Recent formal and informal assessments and inspections indicate that our self-assessment capability has declined, resulting in reduced readiness. We must conduct a rigorous assessment of the impact on readiness of these changes so we can make appropriate course corrections. A key tenant in achieving and sustaining combat readiness is our ability to critically self-assess our ships, ship systems, and equipment with technical rigor."

Commander, Naval Surface Forces highlighted five specific areas for improvement, including adherence to established processes. The series of messages were based on the principals of self-assessment and procedural compliance. These messages elaborated on how to improve the processes through leadership, management, execution, documentation, and training. He called for a robust 3-M program, regular zone inspections, proper documentation of material conditions through quality CSMP entries, and proper reporting of mission degradations through the CASREP process. An August 2008 message reiterated the importance of the zone inspection process in assessing the material condition of the ship and ensuring the timely documentation of deficiencies. Another message, released in October 2009, highlighted the need for proper review of CSMPs by DHs, because such reviews are vital for managing the completion of work requests.

We completed a limited visual review of Zone Inspection Discrepancy Listing (ZIDL) forms for accuracy and completion on each of the 11 ships visited during field work. We focused on the documentation of corrective actions. Criteria states that each space on the ship should be reviewed once a quarter using the ZIDL form. The guidance, as outlined in OPNAV Instruction 3120.32C (26 May 2005) and COMNAVSURFOR Instruction 4790.1E (29 April 2009), references the completion of zone inspections to ensure proper measures are taken quarterly. The documentation portion states that "discrepancies shall be accurately documented in the CSMP. It is imperative that the CSMP reflect the current material condition of the ship and serve as the primary tracking mechanism by which equipment and structural discrepancies are managed from problem identification to correction." We found the following discrepancies: incomplete forms, missing dates, missing zone numbers, missing locations, missing inspector information, and missing deficiency actions. Zone inspections are a major method for assessing the material condition of a ship. The success of the zone inspection program is important to the entire chain of command to ensure discrepancies are properly documented, and timely

corrective actions are taken in accordance with guidance. If zone inspections are not effectively accomplished, the material deficiencies could be missed and not documented for correction. Additionally, all work should be documented in CSMPs to accurately reflect the ships' mission funding needs as well as manpower requirements. Timely discovery of needed corrective maintenance also reduces emergent work requirements, which are more expensive to the Navy. Based on our observations, the Navy's self-assessing process, if not properly documented in CSMPs, may not be sufficiently managed to correct maintenance problems and address identified deficiencies.

While reviewing ship work requests, we examined "Block 35" for DH review notations and history dates related to work request changes. During our site visits, several key maintenance personnel told us that the review process is time-consuming and increases the workload of the 3MC. Of the 11 ships we visited, we found 2 of the ships actively completing Block 35 notations, while 7 had few to no notations. The remaining two had been in the shipyard since the release of the "Back to Basics" messages and had not yet had an opportunity to work with the requirements. There is a perception of an increased workload among ship board maintenance personnel. This is caused in part because a notation in Block 35 causes a change of the work request and subsequent review by the 3MC. The 3MC is not able to determine which jobs awaiting review are newly created and which are due to a change. Therefore, he/she must re-screen all the jobs, which in turn may impact the quality of all his/her reviews.

It was suggested during one ship visit that the software be altered to give the 3MC a quick method to distinguish new work requests. We noticed that the current software has a 'notes' section that is currently unused. If the software could be configured to allow the use of this field without a change to the work request, DH reviews could be documented without resulting in an additional 3MC review.

While we noted these observations during audit verification, we were not able to obtain sufficient evidence to support the underlying causes. Therefore, we did not make any recommendations.

Section B:**Status of Recommendations**

Recommendations							
Finding ⁹	Rec. No.	Page No.	Subject	Status ¹⁰	Action Command	Target or Actual Completion Date	Interim Target Completion Date ¹¹
1	1	18	Develop consistent guidance for the accomplishment of Organization-level maintenance throughout the maintenance management system with an emphasis on improving the accuracy of discrepancy documentation, Current Ship Maintenance Project review, the tracking of work request accomplishments, and prioritizing maintenance actions.	O	U.S. Fleet Forces Command	7/31/11	
1	2	19	Develop and implement processes and procedures to ensure casualty reports are completed for primary and secondary mission essential deficiencies in accordance with Navy Warfare Publication 1-03-1, and work requests are appropriately assigned Priority Levels in accordance with Naval Sea Systems Command Instruction 4790.8B.	O	U.S. Fleet Forces Command	7/31/11	
1	3	19	Interface and simplify maintenance management systems to reduce data input time and errors, reduce redundant data entries to multiple systems, improve data reliability, and eliminate visibility disparity among systems.	O	U.S. Fleet Forces Command	12/28/12	12/30/11
2	4	24	Implement controls over the process for uploading material inspection deficiencies in the Current Ship Maintenance Project by creating an audit trail to ensure uploads are carried out and tracked through completion.	C	U.S. Fleet Forces Command	2/26/10	
2	5	25	Implement controls over the process for uploading material inspection deficiencies in the Current Ship Maintenance Project by creating an audit trail to ensure uploads are carried out and tracked through completion.	C	U.S. Pacific Fleet	2/26/10	

⁹ / + = Indicates repeat finding.

¹⁰ / O = Recommendation is open with agreed-to corrective actions; C = Recommendation is closed with all action completed; U = Recommendation is undecided with resolution efforts in progress.

¹¹ If applicable.

Exhibit A:

Background

Articles published in March and April 2008 by the *Navy Times* and *Defense News* reported that two U.S. Navy warships equipped with the Navy's latest surface combat system, Aegis, were found to be "unfit for sustained combat operations." This was based on recent inspections performed by the Navy's Board of Inspection and Survey (INSURV). The two ships receiving this designation were the Destroyer *USS STOUT* and the Cruiser *USS CHOSIN*, representing both Atlantic (*STOUT*) and Pacific (*CHOSIN*) Fleets.

Based on the extent and nature of maintenance issues reported by INSURV, as well as the amount of media coverage these INSURV results have received, ship maintenance is a high-risk area. On 10 July 2008, members of the audit team met with President, INSURV, to discuss the results of the *USS CHOSIN* and *USS STOUT* reviews. During this meeting, the president concurred that maintenance of Navy ships [at all levels] is a "high-risk" area. He noted that since the Navy's goal of having a 313-ship Navy is predicated on extending the life span of current in-service ships, proper maintenance of these ships is critical. He further stated that "maintaining in-service Fleets is as big a challenge as constructing new ships," and that an audit by the Naval Audit Service was warranted to provide an independent and objective review.

The Navy budgets about \$4 billion annually for ship maintenance. The goal of Navy ship maintenance is to maintain ships in appropriate material condition to achieve availability for operations (readiness). Ship maintenance can either be preventive or corrective in nature. Currently, the Navy identifies three different levels at which maintenance actions occur, from lowest to highest echelon level, respectively: organizational (O)-level (ship), intermediate-level, and depot-level. O-level maintenance consists of all maintenance actions within the capability and capacity of the ship's force. Intermediate-level maintenance is that which requires higher skill, capability or capacity than available at the Organizational-level. Depot-level maintenance is the highest level, and is performed by Naval and private shipyards, Naval repair yards, or item depot activities.

As described in Chief of Naval Operations (OPNAV) Instruction 4700.7K, "Maintenance Policy for U.S. Navy Ships," issued 11 July 2003, a tailored maintenance program plan must be developed and maintained for each ship class. The program must provide details on essential maintenance elements required at all three levels to keep the ship in a high state of material readiness. This plan is referred to as the Integrated Class Maintenance Plan (ICMP). The instruction also requires that ship maintenance be performed at the lowest maintenance echelon that can best ensure proper accomplishment, taking into

consideration applicable laws, urgency, priority, crew impact, capability, capacity, and total cost.

The Maintenance and Material Management (3-M) System is the Navy's primary management program for non-nuclear maintenance aboard all U.S. Navy ships. 3-M is designed to provide ships and applicable shore stations with simple and standard means for planning, scheduling, controlling, and performing maintenance on all shipboard systems and equipment. The primary objective of 3-M is to manage shipboard maintenance in a manner that will ensure maximum readiness.

OPNAV Instruction 4700.7K, requires that the Current Ship Maintenance Project (CSMP) be the primary repository of information concerning the material condition of the ship. CSMP is used by the ship to document all deferred preventive and corrective maintenance requirements identified through the 3-M system. A ship's force is required to maintain CSMP in a complete and current status at all times.

Ships' commanding officers (COs) are responsible for ensuring the proper preservation, maintenance, repair, and operation of any ship under their command in accordance with Navy policy. COs are also responsible for ensuring proper reporting and documentation of all maintenance and modernization actions, including ensuring that the CSMP is complete and current.

INSURV acts as an agent for the Secretary of the Navy (SECNAV) and Chief of Naval Operations (CNO) to perform, among other responsibilities, the following statutory, regulatory and contractual requirements related to ship maintenance and readiness:

- Develop and establish CNO policy and procedures for trials, material inspections, and surveys of ships and service craft consistent with laws, regulations, and the terms of contracts;
- Examine Naval vessels periodically by a board of Naval officers to determine fitness for further service;
- Conduct material inspections and surveys of ships and service craft and provide assessment of the material readiness;
- Provide timely, candid, and accurate findings and recommendations, based on observations during INSURV assessments, to Fleet commanders, type commanders, Naval Sea Systems Command (NAVSEA), and appropriate CNO offices; and
- Compile statistical information and analyses on material deficiencies, providing the CNO, Fleet commanders, NAVSEA, and other higher authorities such information as they may require.

Maintenance Figure of Merit (MFOM) and Afloat Toolbox for Maintenance

Using existing maintenance documentation (i.e. casualty reports, maintenance requests, ICMP), MFOM 2.0 calculates material condition readiness values for equipment, systems, or ship classes for various tasks, missions, and warfare areas. It then displays this information in a variety of easily understood formats that support the chain of command from CNO down to the sailor on the ship. Additionally, MFOM 2.0 prioritizes maintenance actions, provides projected future readiness, develops operational availability (A_o), and identifies degraded systems and equipment. MFOM 2.0 feeds equipment material readiness information to the Defense Readiness Reporting System-Navy (DRRS-N).

“Afloat Toolbox for Maintenance” (ATM), used in conjunction with MFOM as a support system, provides the user a single sign-in with access to multiple maintenance applications onboard Navy vessels. It also integrates those applications by relating the stove-piped configuration data underlying those applications. Users can update information in one application and have it automatically fed to the other ATM programs. This feature reduces the redundant entries during maintenance events, saving time and effort. Reducing the number of times one has to enter information into a system also reduces the probability of conflicting entries.

Through numerous interviews and our own testing, we found that data quality and reliability is an ongoing problem in the ship maintenance community. Though the MFOM and ATM software is still in production, the software promises to improve several noted ship maintenance documentation and tracking weaknesses. These include material readiness reporting, data quality and reliability, multiple system views, and redundant inputs of information. Through a review of promotional material, we determined several areas where the MFOM and ATM software could potentially improve current maintenance processes. The original program goal was to develop a program that could provide the Navy with near real-time material readiness information. However, due to known quality limitations of current ship maintenance data, it was determined that in order to provide reliable readiness information the entire maintenance information system would need to be updated.

To reduce data duplication and improve data reliability, the new method for entering a work request will use portable barcode reading technology, dropdown menus, and auto-fill data fields when completing a work request. This would further reduce the number of data fields required to be manually entered from 150 to 5. Automatic population of work request fields will also reduce by 96 percent the number of manual data entries required by the user. This will greatly reduce input errors and data input time. Additionally, MFOM automatically synchronizes maintenance information between the ship and the shore to provide a complete and comprehensive list of all maintenance information. This will ensure there is not a disparity in information between the ship and shore.

Board of Inspection and Survey (INSURV)

According to personnel, INSURV conducts limited material inspections (MIs) of ships, with a focus on safety and O-level preventive maintenance. The items for inspection during an MI are posted on INSURV's Web site. INSURV personnel say there is no specific criterion establishing what constitutes a ship as unfit/unsatisfactory. Rather, this is a judgment call by the senior inspectors in consultation with the President, INSURV. For example, they would not consider a ship to be "unfit/unsatisfactory" if the environmental protection area was designated as such. However, they would likely consider the ship unsatisfactory if an area affected the ship's ability to carry out its mission. In order for a ship to be found "unfit for sustained combat," there must be multiple mission areas found degraded or unsatisfactory. The criteria relating to "unfit for sustained combat operations" designations have since been changed. Ships will no longer be considered "unfit," but will instead be designated as being in "unsatisfactory material condition." This change was prompted by the Fleet commander's request not to use the "unfit" designation. In response, INSURV changed its instruction in February 2010 to consider the deficiencies as "unsatisfactory material conditions." INSURV only deals with the material condition of the ship and does not look into other areas of concern (i.e. training and manpower). The Afloat Training Group (ATG) is the type commander's forward presence on the ships to ensure the standards are enforced; the ATG reviews maintenance from an administrative perspective. While INSURV does not specifically address these areas, information they collect can be used to show trends. For example, the corrosion and structural problems noted in the *USS CHOSIN* and *USS STOUT*'s MI results were consistent problems throughout the Navy.

Exhibit B:

Scope and Methodology

Scope

The audit covered maintenance for Aegis-equipped Ticonderoga (CG-47) Class Guided Missile Cruisers and the Arleigh Burke (DDG-51) Class Guided Missile Destroyers, both of which were currently in service and commissioned prior to 2004. There were a total of 22 CG and 41 DDG class ships that met these criteria at the beginning of our audit, which was conducted from 2 October 2009 to 18 October 2010. We focused on organizational (O)-level (ship) maintenance. Specifically, we reviewed how each ship prioritizes and accomplishes their O-level maintenance tasks. For Finding 1, we performed verification and validation testing for a sample of CG and DDG ships home-ported on the East Coast, based on availability. We visited a total of 11 ships: 5 CGs and 6 DDGs. We reviewed work requests, which were current as of 8 February 2010, from the shore Current Ship Maintenance Project (CSMP). For Finding 2, our audit testing covered the 63 ships in service and commissioned prior to 2004 and home-ported on either the East or West Coasts.

Methodology

We conducted this performance audit in accordance with Generally Accepted Government Auditing Standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

We evaluated the effectiveness of internal controls over managing and accomplishing O-level maintenance by reviewing compliance with applicable policies and criteria. To obtain an understanding of internal controls, we interviewed key maintenance personnel; used questionnaires; analyzed CSMPs; and conducted ship site visits. Additionally, we performed audit tests to determine whether internal controls were sufficient to ensure O-level maintenance was performed efficiently and effectively. The results are shown in Findings 1 and 2. There were no prior audit reports related specifically to accomplishing O-level maintenance that required followup.

Deferred O-Level Maintenance and Prioritization

To assess the potential magnitude of deferred maintenance and prioritization of O-level (ship) maintenance, we obtained the Shore Current Ship Maintenance Projects (CSMP) listing for CG and DDG class ships in our universe. The CSMP included all work requests open as of 8 February 2010, the date we retrieved the data. The Naval Audit Service data analysis team then combined all the CG CSMP spreadsheets into one spreadsheet. The same was done for the DDGs. For the 11 ships we visited, 5 CGs and 6 DDGs, the total number of work requests are found in the table below:

Table 8 – Total Number of Work Requests

	Priority Level				
	1	2	3	4	Total
CG Totals	116	327	509	3,811	4,763
DDG Totals	24	83	305	3,346	3,758
Total	140	410	814	7,157	8,521

After discussions with Naval Audit Service's statistician, we decided to review a minimum of 30 job sequence numbers (JSNs) from the CSMP data for each of the 11 ships. The methodology for sampling a minimum of the 30 JSNs was as follows:

- Priority 1 – 100 percent;
- Priority 2 – 100 percent for each ship or random sample of 10 JSNs, unless more are needed to reach a total of 30 JSNs;
- Priority 3 – 100 percent for each ship or random sample of 10 JSNs unless more are needed to reach a total of 30 JSNs; and
- Priority 4 – In cases where Priority 1, 2, or 3 JSNs do not total to 30, random sample of these JSNs until 30, total, are assembled.

Further details of the actual number of work requests selected for review based on the sampling methodology are discussed in the Audit Results section in Finding 1.

Board of Inspection and Survey (INSURV) Work Request Upload

Each INSURV material inspection (MI) identified work that should have had a work request uploaded to the ship's CSMP. Naval Surface Warfare Center Corona, CA (NSWC) personnel said that an INSURV work request is identifiable by the JSN prefix of

R, S, or T. Additionally, there is no safeguard to prevent another user from inputting a similarly coded JSN. Therefore, the INSURV inspection number field was used to further validate the job as an authentic INSURV work request. The Maintenance and Material Management System is the data repository, accessible through the Architectural Retrieval System (OARS). NSWC personnel retrieved data relating to criteria we requested. Specifically, we were looking for all jobs from calendar years 2005 to 2009, with an R, S, or T prefixed JSN. We also asked that the data be separated by the ship classes CG and DDG. This resulted in 22,421 and 42,872 CG and DDG records respectively. Data reliability was not an objective of this audit. However we conducted verification and validation of data extracted from the systems by reviewing work requests from the shore CSMP and each ship's individual CSMP (dated 8 February 2010). Variances between the shore and ship CSMPs are discussed in Finding 1. We also verified the information in the systems using source documents and found the data was reliable for the purposes of this audit.

Exhibit C:

Pertinent Guidance

Levels of Maintenance

Commander, U.S. Fleet Forces Command Instruction (COMFLTFORCOM Instruction) 4790.3, “Joint Fleet Maintenance Manual” (JFMM), 11 August 2009, states that a dedicated effort should be made by all Naval type commanders (TYCOMs) to establish a single, unified source of maintenance requirements across all platforms. It is a standardized, basic set of minimum requirements, contained in 12 volumes and multiple chapters, to be used by all TYCOMs and subordinate commands. It supersedes all existing TYCOM maintenance and quality assurance manuals.

Casualty Report (CASREP) - Emergent Funding

Chief of Naval Operations Instruction (OPNAV Instruction) 4700.7K, “Maintenance Policy for U.S. Navy Ships,” 11 July 2003, is the primary instruction for ship maintenance. This instruction provides policy for all three levels of Navy ship maintenance: organizational, intermediate, and depot. Maintenance will be performed at the maintenance echelon that can best ensure proper accomplishment, taking into consideration applicable laws, urgency, priority, crew impact, capability, capacity, and total cost. The instruction also dictates that the Maintenance and Material Management (3-M) System is the Navy’s primary management program for non-nuclear maintenance aboard all U.S. Navy ships.

COMFLTFORCOM Instruction 4790.3 REV B, 11 August 2009, states that a C3/C4 CASREP, or a C2 CASREP with reasonable potential to become a C3/C4 CASREP, is identified as emergent maintenance and will be funded with emergent dollars.

3-M System

OPNAV Instruction 4790.4E, “Ship’s Maintenance and Material Management (3-M) Policy,” 31 October 2007, establishes policy and assigned responsibilities for the continued development and operation of the Department of the Navy’s 3-M System. The 3-M System is the nucleus for managing maintenance aboard all ships and applicable shore station equipment. This system provides all maintenance and material managers (3MC) throughout the Navy with a process for planning, acquiring, organizing, directing, controlling, and evaluating the manpower and material resources used to support maintenance. Additionally, it is designed to provide standardization, efficiency, documentation, analysis, configuration status accounting, and scheduling.

Deferred Maintenance

Naval Sea Systems Command Instruction (NAVSEA Instruction) 4790.8B, 13 November 2003, states that a deferred maintenance action is a maintenance requirement that meets one or more of the following criteria:

- a. Requires assistance from external activity or other work center (parts);
- b. Not expected to be accomplished by a ship's force within the TYCOM time frame;
- c. Uncorrected deficiency reported by the Board of Inspection and Survey (INSURV) or other inspecting activity; or
- d. Safety condition.

Casualty Report (CASREP)

Navy Warfare Publication (NWP) 1-03.1, "Operational Reports," formerly NWP 10-01-10, November 1987, Chapter 4, "Casualty Report," states that the casualty report (CASREP) has been designed to support the Chief of Naval Operations and Fleet commanders in the management of assigned forces. A CASREP is defined as an equipment malfunction or deficiency that cannot be corrected within 48 hours and reduces the unit's ability to perform a primary or secondary mission. The instruction provides a decision tree to determine which category CASREP to assign.

Priority Level CASREP Requirements

NAVSEA Instruction 4790.8B, "Ship's Maintenance and Material Management (3-M) Manual," 13 November 2003, and **Commander, Naval Surface Forces Command Instruction 4790.1E, "Surface Force Maintenance and Material Management (3-M) Assessment and Certification Program,"** 29 April 2009, show that certain 2-Kilo (work requests) Priorities 1, 2, and 3, need a CASREP. Priority 1 (Mandatory) should have a C-4 (category 4) CASREP; Priority 2 (Essential) should have a C-3 (category 3) CASREP, and Priority 3 (Highly Desirable) should have a C-2 (category 2) CASREP. Priority 4 (Desirable) does not need a CASREP. NAVSEA Instruction 4780.8B requires the completion of Block 41 (priority code) of form NAVSEA 4790/2K.

Exhibit D:

Activities Visited and/or Contacted

U.S. Fleet Forces Command (N43) – Norfolk, VA

Commander, Naval Surface Forces Atlantic Fleet – Norfolk, VA

Commander, Naval Surface Forces Pacific Fleet – San Diego, CA

Commander, Naval Sea Systems Command – Washington, DC

Board of Inspection and Survey – Norfolk, VA

Naval activities and Fleet vessels as shown below:

Afloat Training Group Atlantic, Norfolk, VA

Afloat Training Group Pacific, San Diego, CA

Commander Industrial Operations (SEA 4E)*

Commander Surface Warfare (SEA 21), Washington, DC

Surface Ship Life Cycle Management Activity, Portsmouth, VA

Cruiser Class Squadron (CGRON), San Diego, CA

Destroyer Class Squadron (DDGRON), Norfolk, VA

Surface Warfare Enterprise (SWE), San Diego, CA

South East Regional Maintenance Center, Norfolk, VA

South West Regional Maintenance Center, San Diego, CA

Naval Surface Warfare Center, Corona, CA

Commander, Naval Surface Forces – Homeport Norfolk, VA

USS ANZIO CG 68

USS LEYTE GULF CG 55

USS MONTEREY CG 61

USS VELLA GULF CG 72

USS MAHAN DDG 72

USS GONZALEZ DDG 66

USS MITSCHER DDG 57

USS PORTER DDG 78

USS STOUT DDG 55

Commander, Naval Surface Forces – Homeport Mayport, FL

USS GETTYSBURG CG 64

USS PHILIPPINE SEA CG 58
USS ROOSEVELT DDG 80

Commander, Naval Surface Forces – Homeport San Diego, CA

USS CHANCELLORSVILLE CG 62
USS DECATUR DDG 73

All activities were visited unless notated otherwise.

*Phone conversation

Appendix 1:

Management Response from Commander, U.S. Fleet Forces Command



DEPARTMENT OF THE NAVY
COMMANDER
U.S. FLEET FORCES COMMAND
1562 MITSCHER AVENUE SUITE 250
NORFOLK, VA 23551-2487

4730
Ser N43/054
23 Dec 10

From: Commander, U.S. Fleet Forces Command (N43)
To: Department of the Navy, Naval Audit Service,
1066 Beatty Place SE, Washington DC 20374-5005

Subj: RESPONSE TO NAVAUDSVC AUDIT SERVICE DRAFT REPORT
N2009-NIA000-0116

Ref: (a) Naval Audit Service Draft Report N2009-NIA000-0116

1. In response to reference (a), and as a result of review by USFF N43, the following responses to recommendations 1 through 4 are provided:

a. Recommendation 1: Develop consistent guidance for the accomplishment of O-level maintenance throughout the maintenance management system with an emphasis on improving the accuracy of discrepancy documentation and CSMP reviews, tracking the accomplishment of work requests, and prioritizing maintenance actions.

(1) USFF N43 concurs and has drafted a new chapter for the Joint Fleet Maintenance Manual (JFMM) on the documentation of equipment malfunctions and deficiencies. The purpose of this chapter is to provide guidance on accurately documenting ship's material condition and ensuring that this documentation is done in a timely and expeditious fashion.

(2) This new chapter will be included in the July 2011 update to the Joint Fleet Maintenance Manual. This action is considered complete.

b. Recommendation 2: Develop and implement processes and procedures to ensure casualty reports (CASREPs) are completed for primary and secondary mission essential deficiencies in, accordance with NWP 1-03-1, November 1987 and work requests are appropriately assigned priority levels in accordance with NAVSEA Instruction 4790.8B, 13 November 2003.

(1) USFF N43 concurs. USFF N43 is deploying new CASREP software that not only meets the latest software and security

Subj: RESPONSE TO NAVAUDSVC AUDIT SERVICE DRAFT REPORT
N2009-NIA000-0116

requirements but integrates with Automated Work Notification (AWN) to make it easier to generate and track CASREPs.

(2) Additionally USFF is introducing the Equipment Operating Capability (EOC) as a part of an improved method to document the actual material condition of the equipment or system vice using the Status Code and Priority Code currently utilized by legacy systems (OMMS-NG, REMAIS, SNAP, etc). This will further clarify for the ship when a CASREP is required to report an operational limitation to primary or secondary mission area or task.

(3) USFF N43 will include a chapter in the July 2011 update to the Joint Fleet Maintenance Manual to capture the new processes and procedures. This action is considered complete.

(4) The COMNAVSURFOR Instruction 4790.1, dated April 2009, that was quoted as a reference (page 10) is incorrect and is undergoing revision and will be complete by March 2011.

c. Recommendation 3: Interface and simplify maintenance management systems to reduce data input time and errors reduce redundant data entries to multiple systems, improve data reliability, and eliminate visibility disparity among systems.

(1) USFF N43 concurs and is deploying the AWN application as a part of the Maintenance Figure of Merit (MFOM) Family of Systems to support timely and accurate reporting of material readiness. AWN improves readiness reporting (and by association, maintenance data entry) processes by providing the user the ability to precisely describe deficiencies against objects in the MFOM model and by automating the reporting process through the use of 2D barcodes, dropdown menus, and "auto-fill". This automation complements the data management and visualization capabilities offered in the MFOM Family of systems by drastically reducing the manual entry data fields available to the user by 96 percent.

(2) Deployment is part of the NIAPS 2.4 upgrade and should be complete by December 2012 (105 ships with AWN by July 2011, 175 ships by December 2011, 209 by July 2012).

d. Recommendation 4: Implement controls over the process for uploading MI deficiencies in the CSMP by creating an audit trail to ensure uploads are carried out and tracked through completion.

Subj: RESPONSE TO NAVAUDSVC AUDIT SERVICE DRAFT REPORT
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(1) USFF concurs and is working to consolidate down to one material assessment software application. Multiple software applications are detracting from the accuracy and completeness of accessing a ship's material condition. These multiple material assessment software applications complicated the Navy's ability to upload the deficiencies documented in these systems to the ship's CSMP and adequately track these deficiencies to ensure they were properly adjudicated.

(2) USFF N43 worked to transition INSURV to AWN as their material assessment reporting software. All surface ships and aircraft carriers are using AWN and submarines are scheduled for December 2011. As a result, all INSURV documented deficiencies are now properly documented in the appropriate ship's CSMP and tracked till appropriately adjudicated. AWN provides an auditable trail to ensure INSURV deficiencies are tracked from creation to adjudication.

(3) This action is considered complete.

2. The point of contact is [REDACTED] (N434), and can be reached at (757) [REDACTED]

FOIA (b)(6)

FOIA (b)(6)

Appendix 2:

Management Response from Commander, U.S. Pacific Forces Command



DEPARTMENT OF THE NAVY

COMMANDER
UNITED STATES PACIFIC FLEET
296 MAKALAPA DRIVE
PEARL HARBOR, HAWAII 96860-3131

IN REPLY REFER TO:
5000
Ser N43/019
5 Jan 11

From: Commander, U.S. Pacific Fleet
To: Department of the Navy, Naval Audit Service,
1066 Beatty Place SE, Washington DC 20374-5005
Subj: RESPONSE TO NAVAL AUDIT SERVICE DRAFT AUDIT REPORT
N2009-NIA000-0116

Ref: (a) Naval Audit Service Draft Report N2009-NIA000-0116

1. Recommendation 5 of reference (a) stated, "Implement controls over the process for uploading MI deficiencies in the CSMP by creating an audit trail to ensure uploads are carried out and tracked through completion.", and assigned action to Commander, U.S. Pacific Fleet (COMPACFLT).
2. Concur with this recommendation which mirrors Recommendation 4 from reference (a), assigned to U.S. Fleet Forces Command (USFF). Both Fleets are working together to consolidate to a single software application for all material assessments, Automated Work Notification (AWN).
3. Board of Inspection and Survey (INSURV) transition to AWN as their material assessment reporting software is complete for surface ships and aircraft carriers. As a result, INSURV deficiencies are now documented and tracked until appropriately adjudicated for the ship's CSMP. AWN provides an auditable trail to ensure INSURV deficiencies are tracked from creation to adjudication and uploading.
4. This action is considered complete.
5. My point of contact at COMPACFLT N43 is [REDACTED]
[REDACTED]
[REDACTED]
Rear Admiral, U.S. Navy
Deputy Chief of Staff for
Fleet Maintenance

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